

U.S. Serial No.: 10/629,978
Filed: July 30, 2003
Group Art Unit: 3739
Examiner: Peter J. Vrettakos
Atty. Docket No.: 22956-324

REMARKS

The pending Office Action addresses and rejects claims 28-30, 32-40, 42-57, and 68-72.

Amendments

Applicants cancel claims 28-30, 32-37, and 48. This amendment is not to be interpreted as an admission that these claims do not distinguish over the cited references, as applicants respectfully disagree with the Examiner's rejections for reasons discussed in detail below. Applicants reserve the right to pursue these claims in a continuation application.

Applicants add new independent claim 73 which recites a suture anchor having an insertion element having an elongate shaft frangibly attached to a distal end thereof, and an anchoring element adapted to be disposed within bone and having a cavity extending therethrough between opposite open ends thereof for receiving the insertion element such that the insertion element and the anchoring element are adapted to retain a suture therebetween. Support for this amendment can be found throughout the specification. No new matter is added.

As a result of these amendments, claims 38-40, 42-57, and 68-73 are now pending.

Claim Rejections

(1) Independent Claims 38, 47, 49, 52, 57, and 72

Claims 38-40, 42-45, 52, 54, 57, and 72 are rejected pursuant to 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,702,397 of Goble et al. ("Goble"), and claims 47, 49, 51, 53, and 56 are rejected pursuant to 35 U.S.C. §103(a) as being obvious over Goble. With regard to independent claims 38, 52, 57, and 72, the Examiner argues that Goble discloses a device for anchoring a filament to tissue or bone having an anchor member adapted to be embedded in bone with a cavity formed therein, and an insertion element adapted to be disposed in the cavity in the anchor member. The Examiner further argues that that suture anchor is adapted to "substantially secure/compression fit" a suture therein when the insertion element is disposed in the cavity in the anchor member. With regard to independent claims 47 and 49, the Examiner argues that it would have been obvious to one of ordinary skill in the art to modify Goble in light of routine experimentation to provide a suture anchor having a filament that moves as claimed. Applicants respectfully disagree.

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Independent claims 38, 47, 49, 52, 57, 68, and 72 each require a suture anchor that is adapted to hold a suture by an interference or compression fit. Goble does not teach or even suggest such a suture anchor. Rather, as shown in Figures 13, 16, and 17, Goble discloses a suture anchor that uses a mechanical interlock to retain a suture between two components. An interference/compression fit is a force fit between two components. Friction is relied on to hold the two components together. An interlock, on the other hand, does not rely on friction to hold two components together. Rather, it relies on the structure of the two components to fit together in such a way as to prevent movement relative to one another. Accordingly, an interlock is distinct from an interference or compression fit, and thus Goble does not teach or even suggest the claimed invention. Independent claims 38, 47, 49, 52, 57, 68, and 72 therefore distinguish over Goble and represent allowable subject matter. Dependent claims 39-40, 42-48, 50-51, 53-56, and 69-71 are allowable at least because they depend from an allowable base claim.

(2) Independent Claim 68 and New Claim 73

The Examiner also rejects claims 37, 46, 55, and 68-71 pursuant to 35 U.S.C. §103(a) as being obvious over Goble in view of Reissue Patent No. 36,289 of Le et al. ("Le"). At the outset, Applicants note that independent claim 68 requires an interference fit, and thus for reasons previously discussed claim 68 distinguishes over Goble, taken alone or combined with Le. Claim 68 further distinguishes over Goble for reasons discussed below.

Independent claim 68, as well as new claim 73, each recite an insertion element frangibly attached to an elongate shaft. The Examiner argues that it would have been obvious to modify the insertion element of Goble to include a frangible shaft connected thereto, as taught by Le. The Examiner submits that the motivation would be "to easily remove the elongate shaft used to insert the Goble anchor." Applicants respectfully disagree.

It would not have been obvious to a person having ordinary skill in the art at the time of the invention to modify the movable clamp of Goble to include a frangible shaft connected thereto as taught by Le because Goble already provides a simple and effective method for inserting the movable clamp into the body of the bone anchor, and because such a modification would interfere with the intended function of the Goble anchor.

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Goble discloses various embodiments of a suture anchor having a body with a cavity for receiving a movable clamp. As set forth at Col. 4, lines 40-49, Goble states that in all the preferred embodiments of the bone anchor,

in pulling the sutures through the device, the spherical ball, plug, transverse rod or pivoting cam plug halves or the turn back device of the first, second, third, fourth, fifth and sixth embodiments is moved in the device longitudinal cavity towards its proximal end, with the suture or sutures traveling freely therethrough. Whereafter, with a tension set through the suture or sutures, the spherical ball, plus, transverse rod, pivoting cam, plug halves or lock ball of the turn back device will be pulled back into the longitudinal cavity.

Accordingly, in each embodiment, the movable clamp is moved toward the proximal end of the body by pulling the sutures through the device, and it is moved toward the distal end of the body by applying tension to the sutures. Goble therefore already provides a simple and effective technique for inserting the movable clamp into the body.

In certain embodiments, Goble does disclose a rod that can be used to facilitate movement of the movable clamp within the body. It would not have been obvious, however, to modify the rod to be frangibly attached to the movable clamp, as suggested by the Examiner, because such a modification would likely interfere with the intended function of the device. In particular, a frangibly attached rod would likely prevent or hinder movement of the movable clamp as the sutures are pulled through the body. A frangibly attached rod would also render the device more difficult to operate, as the rod would have to be separated from the movable clamp, thereby potentially interfering with positioning of the clamp relative to the body.

Accordingly, it would not have been obvious to modify Goble to include a shaft frangibly connected to the movable clamp as taught by Le, and therefore independent claims 68 and 73 distinguish over Goble and Le. Claims 69-72 are allowable at least because they depend from an allowable base claim.

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Conclusion

Applicants submit that all pending claims are now in condition for allowance, and allowance thereof is respectfully requested. The Examiner is encouraged to telephone the undersigned attorney for Applicants if such communication is deemed to expedite prosecution of this application.

Respectfully submitted,



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